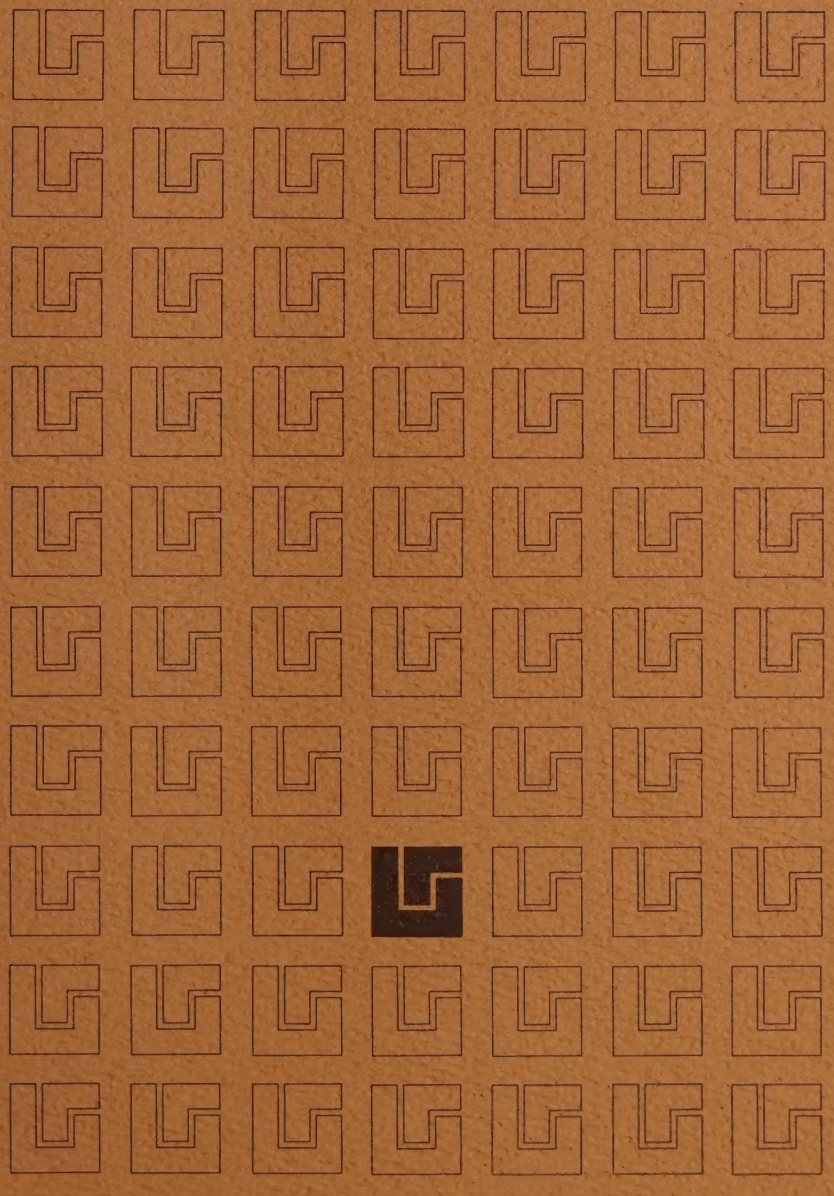
THE BUNKER-RAMO CORPORATION



METROLOGY LABORATORY
CALIBRATION PROCEDURE

NO. 1118

FOR
BETA ELECTRIC, POWER SUPPLY
MODEL 820-5

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THE BUNKER-RAMO CORPORATION
DEFENSE SYSTEMS DIVISION
8433 FALLBROOK AVENUE • CANOGA PARK CALIFORNIA 91304

METROLOGY LABORATORY CALIBRATION PROCEDURE PROCEDURE NO. 1118

The attached calibration procedure is approved for the calibration of:

Beta Electric, Power Supply, Model 820-5

REMARKS:

Only the calibration section of this manual is applicable.

APPROVED J.E. Pennington

J.E. Pennington, Manager
Metrology Laboratory

CAUTION

THIS INSTRUMENT WAS CAREFULLY PACKED

PLEASE

EXERCISE CARE IN REMOVING FROM CONTAINER.

Do Not Discard Packing Material Until All Parts Are Accounted For And You Are Satisfied That Your Instrument Is Functioning Properly.

This equipment was thoroughly inspected and tested and was in perfect operating condition when it left our plant. Extreme care has been used in its packing. Our responsibility in regard to this shipment ended upon its delivery to the carrier. Responsibility for its safe delivery was assumed by the carrier upon acceptance of this shipment. Therefore, all claims for loss or damage sustained in transit must be made upon the carrier.

CONCEALED DAMAGE

Concealed damage means damage which is not apparent until the equipment is unpacked and examined or tested. When damage of this sort is discovered a written request for inspection must be made of the carrier's agent within 15 days of the delivery date. Contents may be damaged in transit due to rough handling even though the carton shows no evidence of external damage. Delay in making this request may give grounds for refusal of the claim. In any event the carton, packing material, wrappings, etc., must be kept available for inspection. Claim must be filed promptly with the carrier who will usually request the return of the material to our plant for inspection and repair. This equipment will then be returned to you with an invoice itemizing all repairs due to damage which becomes part of your claim.

VISIBLE LOSS OR DAMAGE

If the number of cartons received does not tally with the number of pieces shown on the freight bill or express receipt, if the weight of the shipment does not agree with the weight shown on this receipt or if there is visible evidence of damage to the shipment or its containers, these discrepancies must be noted on the waybill and signed by the carrier's agent. Failure to adequately describe such external evidence of loss or damage may result in the carrier refusing to honor a damage claim.

SHIPMENTS F.O.B. DESTINATION

In the case of shipments which have been made F.O.B. destination we will be glad to handle the filing of claim for damage provided we are furnished with an acceptable inspection report from the carrier. In the event that claim is disallowed because of negligence in obtaining this report, it will be necessary for us to bill repair charges to you.

BETA ELECTRIC

DIVISION OF SORENSEN & CO., Inc.

333 EAST 103 STREET, NEW YORK 29, N. Y.

NOTE:

Please read the entire instruction manual thoroughly before attempting to operate the unit.

If this is not convenient, please read the operating instructions completely before applying power for the first time.

BETA ELECTRIC CORP.,

NEW YORK 29, N. Y.

INSTRUCTION MANUAL

MODEL 820-5

0 - 20,000 VOLTS AC

INSULATION TESTER

September, 1956

SECTION I - - SPECIFICATIONS

A: ELECTRICAL:

(a) Input voltage:	105-130 volts, 50/60 cycles, single phase.
(b) Input current:	2 amperes maximum, at full load.
(c) Output voltage:	0-20,000 volts rms, continuously variable.
(d) Output current:	Maximum short circuit current approximately 9.6 milliamperes. Maximum capacitance value that can be tested is 600 μμf, at 20 kv. Maximum current available at 20 kv is approximately 5.0 ma.
(e) Waveform distortion:	Less than 5% from sine wave, at no load.
(f) Meter:	OUTPUT VOLTAGE: 0-20,000 volts ac; 5% initial accuracy; 4" square bakelite case.
(g) Safety features:	1: Maximum short circuit current available limited to approximately 9.6 milliamperes. 2: Rapid tripping of primary power when load exceeds approximately 6 milliampere. 3: Provision for external safety interlock. 4: Primary line fuses. 5: Door interlock.
(h) Controls:	1: HIGH VOLTAGE OFF & OVERLOAD RESET pushbutton. 2: HIGH VOLTAGE ON pushbutton. 3: HIGH VOLTAGE CONTROL covat*.
(i) Pilot lights:	1/25 watt neon: a: MAIN FUSES blown. b: EXTERNAL INTERLOCK OPEN. c: LOAD BREAKDOWN. d: HIGH VOLTAGE ON. e: DOOR INTERLOCK OPEN.
(j) Auxiliary feature:	Standard 2-pronged convenience outlet, energized when the input is energized.
(k) Power connections:	INPUT: 2-pronged recessed male receptacle, with 6' line cord. OUTPUT: (a) low voltage: 8', #10 wire, rubber covered. (b) high voltage: 12', RG 17/U cable.

B: MECHANICAL:

(a) Size:	20" deep x 22-1/2" wide x 20-1/2" high.
(b) Weight:	122 pounds.
(c) Finish:	Gray hammertone.

* * * *

SECTION II - - GENERAL

The βeta Electric Corp. Model 820-5 high voltage ac source, 0-20,000 volts ac insulation breakdown tester, has been designed for maximum safety and operating convenience, as well as minimum desk area space, so as to be a useful instrument for production and research dielectric breakdown testing, where low "follow-through" electrical power is desired.

A special non-linear resistor circuit in the low voltage side maintains the high voltage output short circuit current comparatively constant over a wide range of open circuit voltage control settings. This non-linear resistor circuit, using ordinary incandescent lamps, may be varied in wattage according to the operation characteristics desired. The short circuit current is below 10 milliamperes, a safe value.

The high voltage output is metered with a rectifier type kilovoltmeter. In series with the ground return leg of the high voltage transformer is a relay that closes in case of load breakdown. By means of a covat*, control to the input of the high voltage transformer, continuous variation of the output voltage from zero to 20 kv can be effected.

Pushbuttons for turning the high voltage on and off provide a convenient control system.

* * * *

To reset after an overload, pushbutton S1, HIGH VOLTAGE OFF & OVERLOAD RESET must be depressed.

The tester is de-energized under normal circumstances by depressing this same pushbutton.

3: Non-linear resistors:

Lamps I6 and I7, in series with the high voltage transformer T2 primary, act as non-linear ballasts. With no load, on T2 secondary, the primary current in T2 is low, and the voltages across I6 and I7 are low. As the load increases on T2, the current in T2 primary increases, increasing the voltage across I6 and I7, thus dropping the primary voltage across T2.

These non-linear resistors tend to flatten out the short-circuit current vs. no load output voltage curve, or producing a short circuit current comparatively constant over a wide range of output voltages. This characteristic is shown in drawing β-b-820-5-3. The characteristic shape can be altered by changing the wattage values of I6 and I7. The autotransformers, T4 and T5 are used as impedance matching devices.

* * * *

6: Turn the HIGH VOLTAGE CONTROL to zero (recommended, not mandatory).

7: Depress the HIGH VOLTAGE ON pushbutton.

8: Turn the HIGH VOLTAGE CONTROL clockwise, till the OUTPUT VOLTAGE reads the desired test voltage, or load breaks down. From the setting of the covat dial at breakdown, and drawing β-a-820-5-3, the rms breakdown voltage can be determined.

9: TO DE-ENERGIZE:

a: Turn the HIGH VOLTAGE CONTROL to zero (recommended, not mandatory).
b: Depress the HIGH VOLTAGE OFF pushbutton.

10: IN CASE OF OVERLOAD:

a: Turn the HIGH VOLTAGE CONTROL to zero (recommended, not mandatory).
b: Depress the OVERLOAD RESET pushbutton.
c: To re-energize, proceed as per steps 7 and 8 above.

* *

SECTION V- - -PRECAUTIONS

1: ALWAYS OPERATE WITH A GOOD EXTERNAL GROUND.

2: Per steps 6, 9a and 10a, always turn the HIGH VOLTAGE CONTROL to zero before de-energizing or energizing, unless repetitive tests at a fixed voltage are being made. This precludes the possibility of unexpectedly high voltage appearing.

* *

SECTION VI - - DRAWINGS

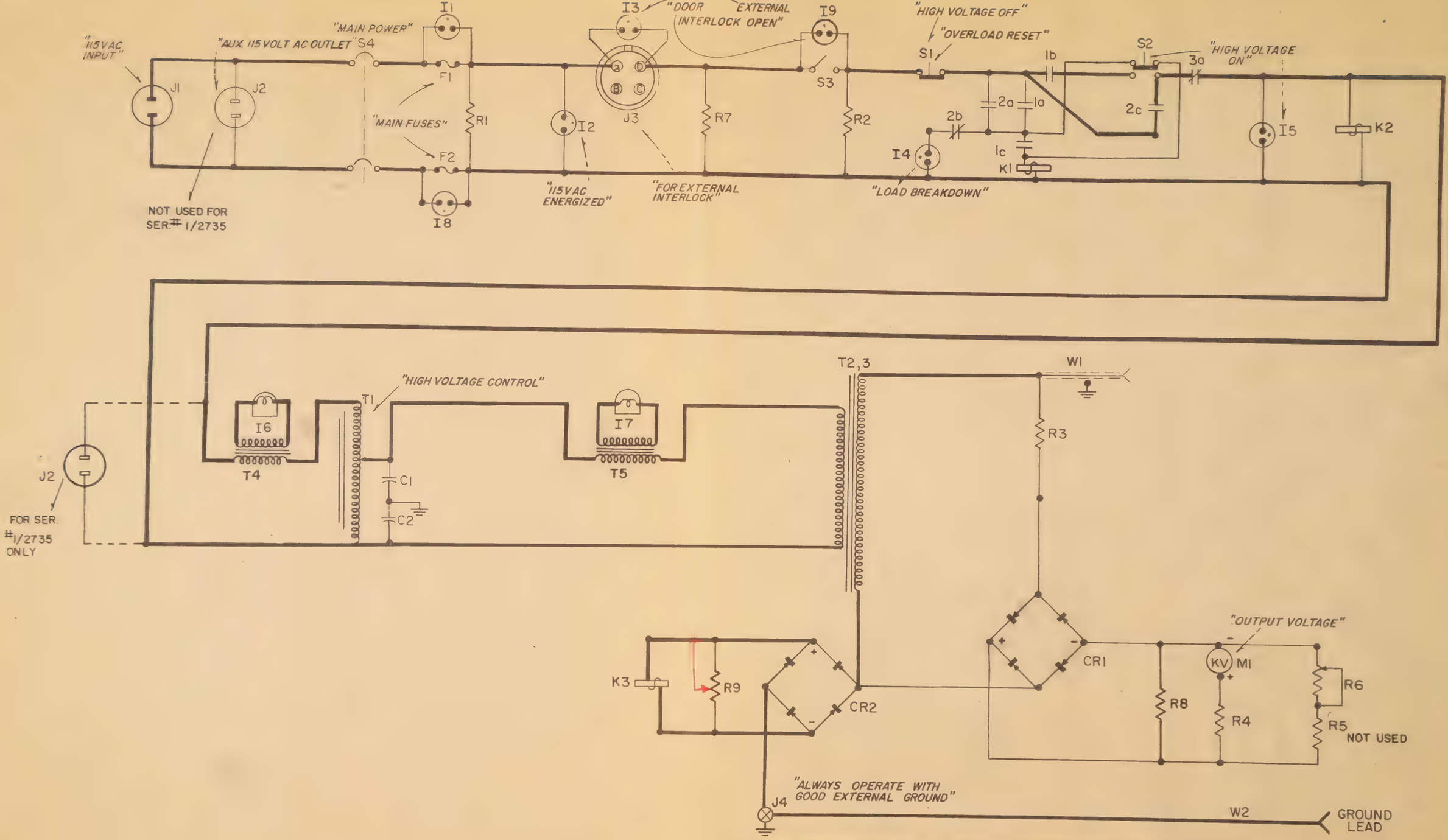
The following drawings are provided with this manual, in addition to the component symbols in the standard parts booklet:

1: β-b-820-5-1, schematic circuit diagram of the entire power supply.

2: β-a-820-5-2, schematic parts layout.

3: β-b-820-5-3, detailed schematic wiring diagram of the entire power supply. This is a point-to-point wiring diagram, illustrating the number coding employed.

4: β-a-820-5-4, a curve of the OUTPUT VOLTAGE and short circuit current vs. HIGH VOLTAGE CONTROL setting.



NO.	REVISION	BY	DATE
			6/56

SCHEMATIC CIRCUIT DIAGRAM

DIMENSIONS IN INCHES DO NOT SCALE

DRAWN BY AS 8-15-56

CHECKED BY 9/11/56

APP'D BY

BETA ELECTRONIC CORP. NEW YORK, N.Y.

820-5-1

NO.	REVISION	BY	DATE
1.	R8 & R9 ADDED.	HC	11-21-57

PARTS PLACEMENT

DIMENSIONS IN INCHES
DO NOT SCALE

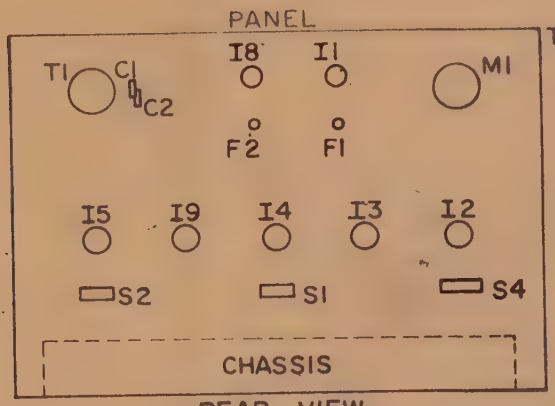
DRAWN BY AS 8-15-56

CHECKED BY [illegible] 9/17/56

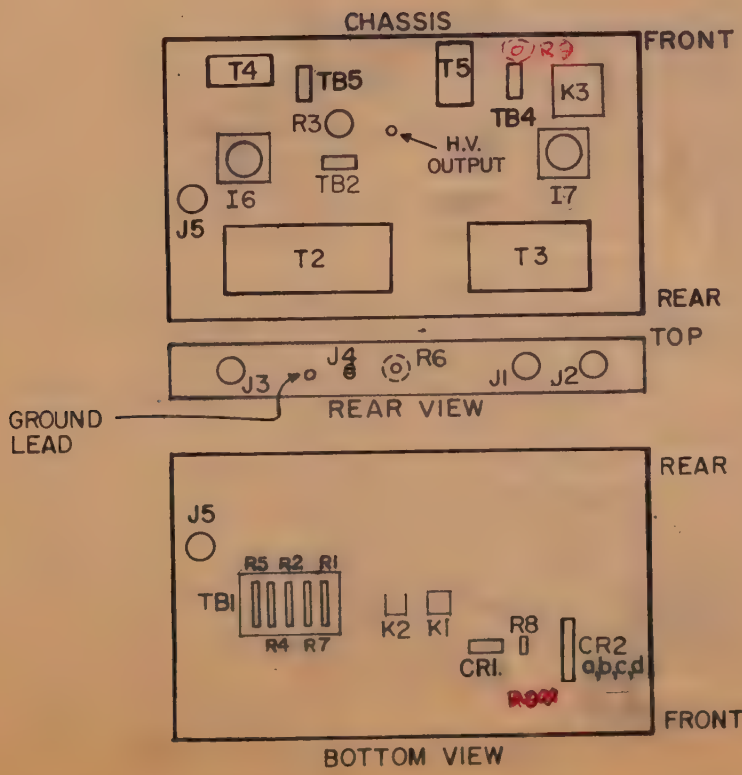
APPR'D BY [illegible] 10/19/56

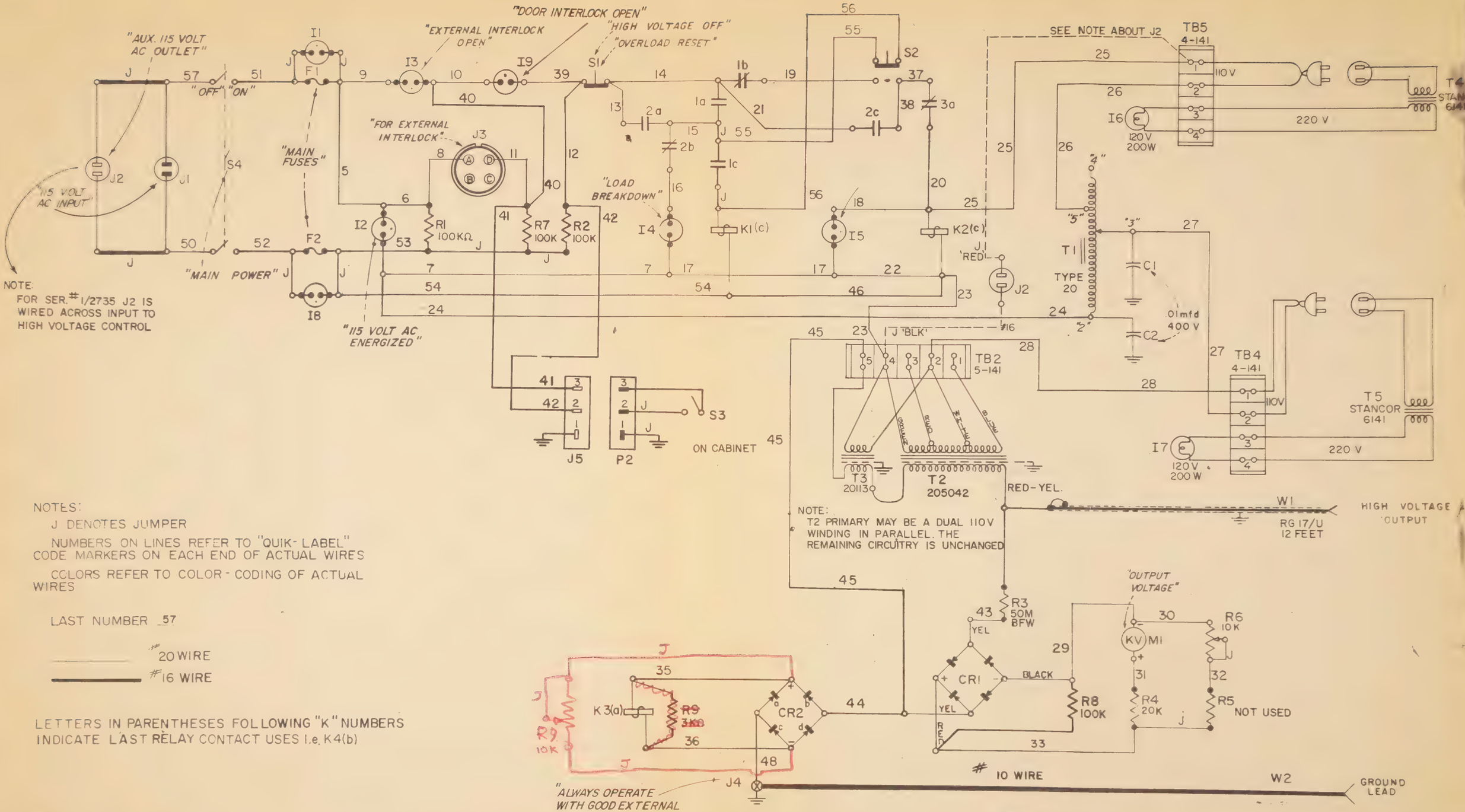
BETA ELECTRIC CORP.
NEW YORK 29, N. Y.

820-5-2



NOTE:
S3 LOCATED ON
REAR OF CABINET.





NOTES:

J DENOTES JUMPER

NUMBERS ON LINES REFER TO "QUIK-LABEL" CODE MARKERS ON EACH END OF ACTUAL WIRES

COLORS REFER TO COLOR-CODING OF ACTUAL WIRES

LAST NUMBER 57

_____ #20 WIRE

_____ #16 WIRE

LETTERS IN PARENTHESES FOLLOWING "K" NUMBERS INDICATE LAST RELAY CONTACT USES I.e. K4(b)

NO	REVISION	BY	DATE
1	WIRING FOR T4 & T5 REVISED	HC	6/13/57
2	REVERSED POSITIONS 1&3 ON J5 &P2	AJK	1/13/58

SCHEMATIC WIRING DIAGRAM

DIMENSIONS IN INCHES DO NOT SCALE

DRAWN BY SE 6/13/56

CHECKED BY HC 9/17/56

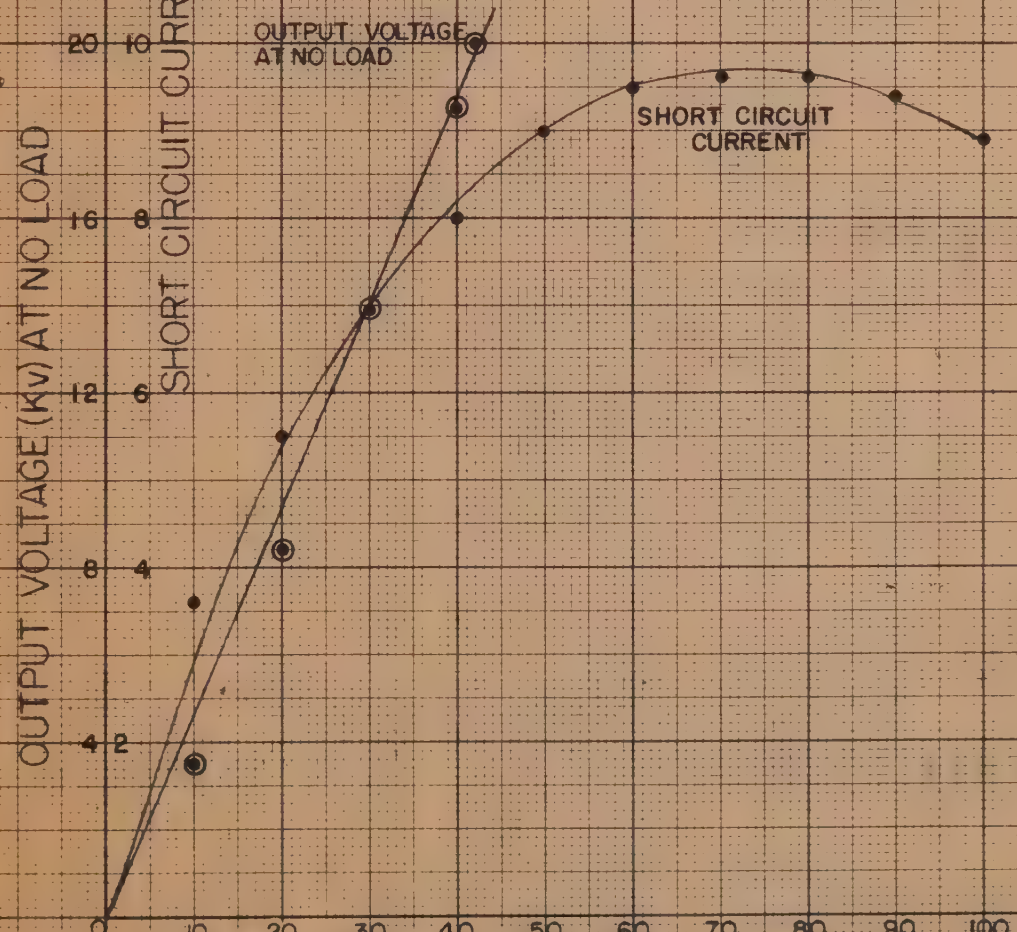
820-5-3

CONTROL CHARACTERISTICS OF MODEL 820-5 HIPOT TESTER

DR. BY AS 9-13-56
CKD BY 9/17/56
APPD BY

Beta Electric Corp.
NEW YORK 29, N.Y.

Fig. 820-5-4



EUGENE DIETZGEN CO
MADE IN U. S. A.
NO. 340A 20 DIETZGEN GRAPH PAPER
20 X 20 PER INCH

NO	REVISION	BY	DATE
	[illegible] For	[illegible]	[illegible]
	[illegible]		
	[illegible]		
	[illegible]		
	[illegible]		
b	C1,2 changed from 2A to [illegible]	[illegible]	1/8/57

Model 820-5 Power Supply

DATE 8/14/56

TYPED BY: hk

CHECKED BY [illegible] 9/17/56

APPR'D BY [illegible]

BETA ELECTRIC CORP.

PARTS LIST. PAGE 1

OCTOBER 1955 STANDARDS

PART NO.	BETA CODE NO. AND DESCRIPTION	LOCATION	FUNCTION
* A1	2A-17 Premier DCR19170 or equiv.		Houses entire unit.
A2	11A Chassis, 17 x 17 x 3 [redacted].		Mounts controls & H.V. components.
* A3	21A-17		Mounts controls.
C1,2	42C	Panel	RF noise suppressors.
C3,4	NOT USED	TB1	Filter and surge suppressors.
E1	5EB		Rubber shield.
** E2	350E - 1/2"	Chassis	CR1 standoff.
F1	8F 3 amperes	Panel	Main fuse
F2	8F 2 amperes	Panel	Main fuse.
H1			Bushing for H.V. output cable.
H2,3	76H GH (integral with	Cabinet)	Carrying handle.
H4	44H-6	Chassis	Bushing for ground lead.
			Cable clamp.
I1	1I	Panel	Blown fuse indicator.
I2-5	1I	Panel	Indicate condition as labelled.
I6,7	3I 120V 200 W	Chassis	Non-linear ballast resistor.
I8,9	1I	Panel	Indicate condition as labelled.
J1	100J	Chassis	Input connector.
J2	101J	Chassis	Auxiliary outlet.
J3	2J	Chassis	External interlock socket.
J4	105J	Chassis	Ground post.
J5	58J	Chassis	Door interlock socket.
K1	24K	Chassis	Overload holding relay.
K2	24K	Chassis	High voltage on holding relay.
K3	12K	Chassis	Overload relay.

* These items revised Dec. 17, 1957 starting with Serial No. [illegible].

** E3-8 See Page No. 3.

NO	REVISION	BY	DATE

Model 820-5 Power Supply

DATE 8/14/56

TYPED BY: hk

CHECKED BY

APPR'D BY

BETA ELECTRIC CORP.

PARTS LIST. PAGE 2

PART NO.	BETA CODE NO. AND DESCRIPTION	LOCATION	FUNCTION
M1	1M labelled 0-20 KV AC RMS	Panel	Indicates output voltage.
P1	Integral with W3.		Mates with J1.
P2	58P		Mates with J5.
P3	2P		Mates with J3.
P4	107P		Ground clip.
R1,2	1R 100k	TB1	Neon pilot light return current pa
R3	4R 50M BFW	Cabinet	Multiplier for kilovoltmeter.
R4	2R 20k	TB1	M1 series calibrator.
R5	NOT USED		
R6	10R 10k	Chassis	M1 fine calibrator.
R7	1R 100k	TB1	Neon pilot light return current pa
R8	1R 100k	TB3	Shunt for meter rectifier.
R9	~~6R 10R 3K/5~~ 10K	~~K3~~ CHASSIS	Shunt for K3.
*see end of page.			
T1	505T 300BU	Panel	Controls output voltage.
T2	303T	Chassis	High voltage transformer.
T3	302T	Chassis	High voltage transformer.
T4,5	602T Stancor #6141.	Chassis	Autotransformers.
W1	3W 12 ft.		High voltage cable.
W2	Single conductor cable, stranded #10 wire, neoprene jacket, 8 ft.(blk.)		Ground lead.
W3	1W		Ac line cord.
W4	11W 1-1/2 ft.		Door interlock switch wire.
XF1,2	1XF	Panel	Hold respective fuses.
XI1-5	1XI	Panel	Hold respective pilot lights.
XI6,7	8XV	Chassis	Hold respective lamps.
XI8,9	1XI	Panel	Hold respective pilot lights.
CR1	3CR	Chassis	Kilovoltmeter rectifier.
CR2a-d	8CR	Chassis	K3 rectifier.
TB1	4TB	Chassis	Mounts resistors.
TB2	1TB 5	Chassis	Circuit tie points.
TB3	3TB	Chassis	Circuit tie points.
TB4	1TB 4	Chassis	Circuit tie points.
TB5	1TB 4	Chassis	Circuit tie points.

*S1-4 - see page 3.

NO.	REVISION	BY	DATE

Model 820-5 Power Supply

DATE 8/14/56

TYPED BY: hk

CHECKED BY

APPR'D BY

BETA ELECTRIC CORP.

PARTS LIST. PAGE 3

PART NO.	BETA CODE NO. AND DESCRIPTION	LOCATION	FUNCTION
S1	5S	Panel	Controls as labelled.
S2	5S	Panel	High voltage on switch.
S3	1S	Cabinet	Door interlock.
S4	3S	Panel	Controls as labelled.

INSULATING MATERIAL USED:

1 pc. 1 x 7-1/2" lucite resistor support.

1 pc. 1 x 3" rod lucite out put post.

E3	407ER	Panel	Pushbutton.
E4	407EB	Panel	Pushbutton.
E5	300F6	Chassis	Bushing for ground lead.
E6	301E 7	Chassis	Feed-thru bushing.
E7	301E 9	Chassis	Feed-thru bushing.
E8	310E 3/4"	Chassis	Bushing.

BETA ELECTRIC CORP.

NEW YORK 29, N. Y.

This booklet contains standard symbols, letter nomenclature and detailed specifications of parts used in Beta Electric Corp. high voltage power supplies and other equipment.

In the parts list accompanying this instruction manual there are Beta code numbers for various circuit and structural components. The detailed specifications are contained in this booklet, and can be found under the proper code number heading.

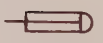
The parts are listed numerically and alphabetically according to letter nomenclature.

In the parts list, detailed specifications are included only for those components that are not listed in the booklet.

October 1955

C CAPACITOR

E SPARK GAP

E  STANDARD INSULATOR

F FUSE

I NEON GLOW LAMP

I INCANDESCENT LAMP

J 2-POLE MALE RECEPTACLE

J 2-POLE FEMALE RECEPTACLE

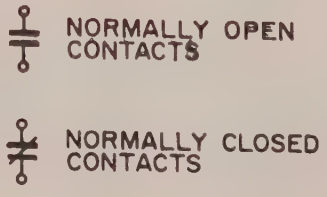
J 3-POLE MALE RECEPTACLE

J BANANA JACK; BINDING POST

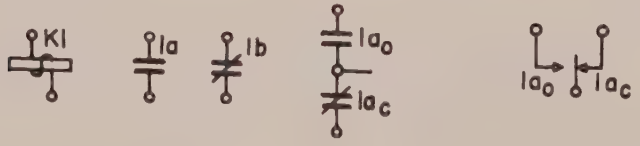
J "AN" RECEPTACLE

J PHONE JACK

K RELAY



EXAMPLE:



K SOLENOID RELAY

L — — FILTER CHOKE

M —

— METER

P — — BANANA PLUG

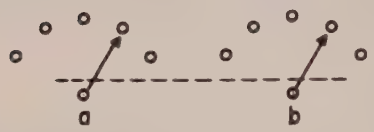
R — — RESISTOR

R — — POTENTIOMETER, RHEOSTAT

S — — PUSHBUTTON SWITCH, NORMALLY CLOSED

S — — PUSHBUTTON SWITCH, NORMALLY OPEN

S — — TOGGLE SWITCH, MICRO-SWITCH, ETC., ROTARY SNAP SWITCH, ETC.,

S — 

ROTARY SELECTOR SWITCH, GANGED

T — — TRANSFORMER COVAT

T — — AUTO TRANSFORMER

W — — INDICATES SHIELDED WIRE

W — — WIRING TERMINAL

W — — PHYSICAL CONNECTION (SOLDER, ETC.)

NOTE:
MANY SELF-EXPLANATORY SYMBOLS SUCH AS RECTIFIERS, AMPLIFIER TUBES, ETC., ARE NOT INCLUDED HEREIN.

THE FOLLOWING IS AN EXCERPT FROM 16B16(RE) 1 July 1946, the BUREAU OF SHIPS INTERIM SPECIFICATION FOR INSTRUCTION BOOKS FOR ELECTRONIC EQUIPMENT, par. E1i:

STANDARD COMPONENT DESIGNATIONS

SYMBOL	DEFINITION
A	Structural parts, panels, frames, castings, etc.
B	Motors and prime movers, self-synchronous motors, etc.
C	Capacitors of all types.
D	Dynamotors, rotary converters.
E	Miscellaneous electrical parts; insulators, knobs, brushes, antennas, etc.
F	Fuses
G	Generators, exciters, etc.
H	Hardware, screws, bolts, studs, pins, etc.
I	Indicating devices, (except meters and thermometers), pilot lamps, etc.
J	Jacks and receptacles (fixed connectors, male or female.)
K	Contactors, relays.
L	Inductors, r.f. and a.f.
M	Meters of all types, gauges, thermometers, etc.
O	Mechanical parts; bearings, shafts, couplings, gears, etc.
P	Plugs (movable connectors, male or female).
Q	Diaphragms (microphone, telephone, projector, etc.).
R	Resistors, fixed and variable, potentiometers, attenuators, etc.
S	Switches, interlocks, thermostats, thermo-regulators.
T	Transformers, r.f., a.f. and power.
U	Hydraulic parts.
V	Vacuum and gaseous discharge tubes.
W	Wires, interconnecting cables, etc., wave guides, transmission lines, delay lines, shield wires.
X	Sockets (electron tubes, pilot lamps, fuses, etc.)*
Y	Mechanical oscillators, crystals, magnetostriction tubes, etc.
Z	Filters, i-f transformers, compound tuned circuit assemblies, etc., in a common container.
BT	Batteries
CR	Rectifiers (electrochemical, copper oxide, selenium, crystal, etc., except vacuum or gaseous tubes).
HS	Handset (telephone and microphone combination).
HR	Heater.
HT	Head telephones.
HX	Heat exchangers.
LS	Loudspeakers.
MG	Motor generators (single unit).
MI	Microphones (hand or chest set type).
TB	Terminal boards.
TY	Surge eliminators (special discharge resistors).
VR	Voltage regulators (except vacuum or gaseous tubes).

* The symbol designation for sockets shall bear the same basic number as for the associated component. To accomplish this, the appropriate symbol letter shall be prefixed with the letter "X", e.g. use "XV" for tube sockets, "XI" for pilot lamps, sockets, etc.

STANDARD PARTS LIST FOR INSTRUCTION MANUALS

(NOTE: Wherever "ac" is specified, this implies 50/60 cycle rating.)

Item number and letter designation	Type of Component	Description
1A	Cabinet, relay rack	Relay rack cabinet for standard 19" panels with "W.E." notching. 22" wide x 18" deep; black wrinkle finish; all welded construction, rounded corners. Per Premier Metal Products Co. Series R units; or Par-Metal Products Corp. Series ER. Number after 1A designates nominal panel space. EXAMPLE: 1A-36 3/4 = Premier Model R3619, cabinet as above, with 36-3/4" panel space. With letter G as suffix, paint is grey wrinkle; use zinc-chromate primer. With letter GH as suffix, paint is grey hammertone, use zinc-chromate primer. EXAMPLE: 1A-36 3/4G.
2A	Cabinet, desk panel	Desk panel cabinet for standard 19" panels with "W.E." notching. 22" wide x 18" deep; black wrinkle finish; all welded construction, rounded corners, Per Premier Metal Products Co. Series DCR units, or Par Metal Prod. Corp. Series DL. Number after 2A designates nominal panel space. EXAMPLE: 2A-8 3/4 = Premier Model DCR8, cabinet as above, with 8-3/4" panel space. With letter G as suffix, paint is grey wrinkle, use zinc-chromate primer. With letter GH as suffix, paint is grey hammertone, use zinc-chromate primer. EXAMPLE: 2A-8 3/4G
3A	Cabinet or Housing, metal	Any metal housing, other than an oil-filled tank, or standard cabinet per 1A or 2A. Number after 3A designates βeta drawing number. EXAMPLE: 3A-β-c-201A2 = cabinet for series 201 power supplies. With letter G as suffix, paint is grey wrinkle, use zinc-chromate primer. With letter GH as suffix, paint is greyhammertone, use zinc-chromate primer. EXAMPLE: 3A-8-c-201A2G

Item number and letter designation	Type of Component	Description
10A	Chassis	Standard chassis, #16 gauge, steel or aluminum. Numbers after 10A designate height, length and width; construction per Premier Metal Products Series CH, or Par Metal type C. EXAMPLE: 10A-S-3X17X10 = Chassis, steel, 16 gauge, black wrinkle finish, 3" high 17" long 10" wide, Premier #CH415. Standard color is black wrinkle. With letter G as suffix, paint is grey wrinkle, use zinc-chromate primer. With letter GH as suffix, paint is grey hammertone, use zinc-chromate primer. Letter Z as suffix, represents zinc plated.
11A	Chassis	Any chassis other than standard chassis per 10A. Number after 11A designates βeta drawing number. EXAMPLE: 11A-β-c-A103 = Chassis with integral mounting brackets, 17 x 10 x 2", as per drawing β-c-A103. Standard color, see 10A.
20A	Panel	Aluminum panel, with standard ".W.E" notching, 19" wide x 1/8" thick, Par Metal Series 6675 - 6686, or Premier Metal Series ARP. Number after 20A designates nominal height and finish. EXAMPLE: 20A-21B = Aluminum panel, 19" wide x 1/8" thick x 21" high, black wrinkle finish, Premier ARP 2119,B. 20A-21G = Aluminum panel, 19" wide x 1/8" thick x 21" high, grey wrinkle finish, Par Metal G-6686. 20A-19GH= Aluminum panel, 19" wide x 1/8" thick x 19" high, grey hammertone, Premier ARP-1919, with special finish.
21A	Panel	Steel panels, per 20A specifications.
22A	Panel	Any metal panel other than panels included in 20A and 21A. Number after 22A designates βeta drawing number. EXAMPLE: 22A-β-c-701-CP2 = special panel for βeta Model 701 Portable Projection Oscilloscope, drawing β-c-701-CP2.
23A	Panel	Bakelite panel, fabricated to βeta specifications. Number after 23A designates βeta drawing number. EXAMPLE: 23A-β-a-101A1 = Bakelite panel for Model 101 and 102 kilovoltmeters, per drawing β-a-101-A1.

Item number and letter designation	Type of Component	Description
30A	Tank and cover	Complete tank and cover assembly. Number after 30A designates βeta drawing number. EXAMPLE: 30A-β-c-2010-A1,A2 = tank, frame and cover assembly, for Model 2010 power supply, per drawings β-c-2010-A1,A2.
31A	Frame	Frame assembly; number after 31A designates βeta drawing number.
32A	Integral cabinet & tank ass.	Complete tank, cover, frame and cabinet assembly. Number after 32A designates βeta drawing number. EXAMPLE: 32A-β-d-32A-3080-120 = Integral cabinet and tank assembly for 80-120 kv series 3000 overpotential testers. With letter G as suffix, paint is grey wrinkle; use zinc-chromate primer. With letter GH as suffix, paint is grey hammertone; use zinc-chromate primer.
50A	Potting can	Potting can, fabricated to βeta specifications. Number after 50A designates βeta drawing number. EXAMPLE: 50A-β-a-A102-224-1 = Potting can for Model 224 power supply, per dwg. β-a-A102-224-
51A	Housing	Output shorting mechanism housing, fabricated to βeta specifications. Number after 51A designates βeta drawing number. EXAMPLE: 51A-β-a-105 = Output shorting mechanism housing per dwg. β-a-A-105.
52A	Lucite	Fabricated lucite, to βeta specifications. Number after 52A designates βeta drawing number, EXAMPLE: 52A-β-a-A-104 = Lucite box as per drawing β-a-A-104.
53A	Bakelite	Fabricated bakelite, specifications per 52A.
54A	Glastic	Fabricated glastic, specifications per 52A.
55A	Formica	Fabricated formica, specifications per 52A.
56A	Roller assembly	Roller truck assembly for standard 22" width cabinet. Premier Metal Products Co. or Par Metal RT series. Number after 56A designates nominal depth of cabinet it supports. EXAMPLE: 56A-18 1/2 = Roller truck assembly, 22" wide 18-1/2" deep. Premier RT 1101.

Item number and letter designation	Type of Component	Description
57A	Chassis brackets	Chassis brackets, 16 gauge, black finish. Premier Meta CB or Par Metal SB series. Number after 57A designates length of base, EXAMPLE: 57A-8 = Chassis brackets, 8" long. Premier CB-78 or equivalent.
58A	Chassis brackets	Special chassis brackets, fabricated to βeta specifications. Number after 58A designates βeta dwg. number.
59A	Distribution box	Distribution box, fabricated to βeta specifications.
70A	Adapter	20" cabinet adapter. Number after 70A designates βeta drawing number.
71A	Adapter	Tank cabinet channel adapter. Number after 71A designates βeta drawing number.
72A	Adapter	Tank cabinet channel adapter, per dwg. β-c-72A-2040-60.
73A	Adapter	Tank cabinet channel adapter, per dwg. β-c-73A-2080-120.
74A	Adapter	Tank cabinet channel adapter, per dwg. β-c-74A-2120-150.
1B	Motor	1/150 HP; 2000 RPM; 200/1 speed reducer, output shaft speed 10 RPM, 75 V DC, shunt wound motor; Bodine #NSH-11R.
2B	Motor	1/40 HP; 1725 RPM; 115 V ac, split phase, reversible.
3B	Motor	DC motor 1/20 HP, 1725 RPM, 115 V dc, shunt, G.E. #738. Servo-Tek #S-348.
13B	Motor	Blower, 115V, 60 cycles AC. Motor, 8" blade, Redmond #591
14B	Motor	Doubler blower, 110V, 60 cycles ac with flange; Redmond MTR-3197.
14B-s	Screen	Screen for above; Redmond MTR-105.
15B	Motor	Blower, 110V, 60 cycles ac with flange; Redmond MTR BL-80
15B-s	Screen	Screen for above; Redmond MTR-104.
16B	Motor	Blower, 110V, 60 cycles ac with flange; Redmond MTR 3883C
17B	Motor	Double blower, 115 V ac, with flange; Redmond MTR 3140, 220CFM, 1550 RPM.
18B	Motor	Blower, 115 V ac, Redmond MTR 3198, 50 CFM, 1550 RPM.

Item number and letter designation		Type of Component	Description
1C		Capacitor	0.001 mfd, 60 kv dc; glass tubular; βeta #201021.
2C		Capacitor	0.002 mfd, 20 kv dc; glass tubular.
3C		Capacitor	0.005 mfd, 10 kv dc; glass tubular.
4C		Capacitor	0.006 mfd, 75 kv dc; βeta #21728.
5C		Capacitor	0.007-0.007 mfd, 11 kv dc; 1 terminal 11 kv; 1 terminal 22 kv; βeta #00221.
6C		Capacitor	0.008 mfd, 60 kv dc; βeta #21727.
7C		Capacitor	0.01 mfd, 400 V dc; paper; Micamold #339 BR 110 or equivalent.
8C		Capacitor	0.01-0.01 mfd, 16 kv dc; 1 terminal 16 kv; 1 terminal 32 kv; βeta #20123.
9C		Capacitor	0.02 mfd, 30 kv dc; βeta #21723.
9C1		Capacitor	0.02 mfd, 30 kv dc; tubular with epoxy seal; Plastic Capacitor #0P-300-203.
10C		Capacitor	0.25 mfd, 400 V dc; paper; Cornell-Dubilier #PH4P25, or equivalent.
11C		Capacitor	1 mfd, 400 V dc; paper; "bathtub", side terminals. Aerovox type 30, or equivalent.
12C		Capacitor	2 mfd, 200 V dc; metallized paper; Aerovox P82 or equivalent.
13C		Capacitor	8-8 mfd, 600 V dc; paper, Tobe-Deutschmann Corp., "Filtermite" type PT-SC-11; 4 pin plug-in base.
14C		Capacitor	20 mfd, 150 V dc, dry electrolytic; Aerovox PRS, or equivalent.
15C	DEAD	Capacitor	100 mfd, 50 V dc, dry electrolytic; Sangamo MTH-5010 or equivalent.
16C		Capacitor	6 mfd, 150 V dc; metallized paper; Astron type MRF, 1.5-6M or equivalent.
17C		Capacitor	100 mfd, 150 V dc; electrolytic; Aerovox PRS or equiv.
18C		Capacitor	500 mfd, 25 V dc; electrolytic; Aerovox PRS or equiv.
19C		Capacitor	.5 x .5 mfd, 16 kv, βeta #3022 (with mounting brackets.)
20C		Capacitor	0.01 mfd, 45 kv dc; 45 kv dc working, 60 kv dc test. Bakelite tube, epoxy seal, with stud for mounting.

Item number and letter designation	Type of Component	Description
21C	Capacitor	0.1 mfd, 15 kv dc; βeta #1521 (with mounting brackets.)
21C1	Capacitor	0.1 mfd, 15 kv dc; βeta #1521 A-tubular with epoxy seal.
22C	Capacitor	.05 mfd, 500 V dc; Sangamo type 35.
23C	Capacitor	.1 mfd, 400V dc tubular; paper dielectric; Sangamo #350401.
24C	Capacitor	.2 mfd, 5 kv, 1 terminal with mounting brackets. PC #0E 50-205B (ground stud should be provided on tap.)
25C	Capacitor	0.25 mfd, 30 kv dc, low end connected to case; with mounting brackets; βeta #3023.
1E	Shield	Anti-corona tube socket shield, open end type; βeta #ACS-1.
2E	Shield	Anti-corona tube socket shield, fully enclosed type; βeta #E-1.
3E	Tube shield	Miniature Amphenol #5-508 or equivalent.
4E	Shield	Rubber shield for battery clip. For Mueller #27 clip. Red or black. Indicate R or B after 4E.
5E	Shield	Rubber shield for battery clip. For Mueller #29 clip. Red or black. Indicate R or B after 5E.
6E	Shield	Tube shield, Cinch Jones 7S series. Number after 6E designates size.
7E	Shield	Tube shield, Cinch Jones 9S series. Number after 7E designates size.
300E	Bushing	All Heyman Manufacturing Co., nylon strain relief bushings, Series SR-P. Number after 300E designates ICA number.
301E	Bushing	All Insuline Corp. of America bakelite feed-through bushings, Series 600. Number after 301E designates ICA number.
302E	Bushing	Feedthrough bushing 9 kv, 45A rating. Heldor #875A, style 5.
303E	Bushing	Feedthrough bushing, 55 kv, 50A rating. Heldor #2625-1, style 10.

Item number and letter designation	Type of Component	Description
304E	Bushing	Lucite feedthrough bushing with nut. 1/2" O.D., 1/8" hole diameter. Bud #457.
305E	Bushing	Porcelain feedthrough bushing. 7/8" panel hole, for 3/8" panel thickness. 7/16" hole size. Universal Clay Products #PB-3.
306E	Standoff	Steatite standoff insulator; 1/2" diameter, #8 thread on both sides. Birnbach Radio Co. Series 443. Number after 306E denotes standoff height. EXAMPLE: 306E-1/2 = 1/2" standoff, Birnbach #443.
307E	Standoff	Steatite standoff bushing, 4-1/2" high x 2-1/4" x 2-1/4" base, with Birnbach jack #395 on top; Birnbach assembly #4451J.
308E	Bushing	Bushing, OZ type BBL or equivalent. Number after 308E designates hole size.
309E	Bushing	Feedthrough, insulating bushing. Adelet Series Peml. Number after 309E designates I.D.
407E	Pushbutton	Pushbutton for Arrow-Hart & Hegeman pushbutton switch 3392A, Beta code #5S. AH&H #3391-194.
408E	Substation protector	Automatic Electric type 16, Cat. #SA57.
409E	Spark plugs	10mm thread, Autolite PR-4 sparkplugs.
410E	Spark gap contacts	Naval bronze spark gap contacts. (Naval balls) Number after 410E designates diameter.
411E	Soldering ferrule	Soldering ferrule, Amphenol #AN 9769-16.
412E	Conduit	Flexible conduit. Type EF. Number after 412E designates diameter of conduit.
413E	Connector	Connector for conduit. Appleton Series. Number after 413E designates size of connector.
414E	Ferrule	Ferrule only for Appleton connectors. Order according to connector catalog number. EXAMPLE: 414E 3/8 = Ferrule only for 3/8 Appleton connector #CFST 3/8.
440E	Knob	1" round black melamine knob; shaft diameter 1/4". Kurz-Kasch #S-308-64-BB-DD. (Formerly 402E).
441E	Knob	ICA #12748, pointed. (Formerly 403E.)
442E	Knob	Used with G.B. 371-A potentiometer. General Radio KNSP-8.

Item number and letter designation	Type of Component	Description
	NOTE:	In fuse specifications, number after letters represents current rating. (i.e., 2F 10 = specs per 2F,10A rating).
1F	Fuse	Extractor post cartridge fuse, quick acting type. 250 V ac rating; Littelfuse type 3AG or equivalent. Fuse ratings 1/16 to 6 amperes.
2F	Fuse	Extractor post cartridge fuse, quick acting type. 250V ac rating; Littelfuse type 3AB or equivalent. Fuse ratings 8 to 20 amperes.
3F	Fuse	Extractor post cartridge fuse, quick acting type. 250 V ac rating; Bussman type BAF or equivalent. Fuse ratings 10 to 30 amperes.
4F	Fuse	Extractor post cartridge fuse, "Slo-blo" type. 125 V ac rating; Littelfuse type 3AG "slo-blo" series 313 or equivalent (Fuse ratings 1/100 to rating:
5F	Fuse	Plug type fuse, standard Edison screw base; transparent top. General Electric type PY, or equiv. 125 V ac rating. (Fuse ratings 3 to 30 amperes.)
6F	Fuse	Enclosed, 1 time cartridge fuse; 250V ac, 20 to 60 amperes rating; General Electric type GF4A or equiv.
7F	Fuse	Fusetron fuse, "Slo-blo" #FRS-15, 600 volt. (Fuse ratings 1/10 - 600 amperes.
40H	Cable clamp	For high voltage cable, per dwg. β-HVCC-3. Number following H represents RG cable number that clamp fits. EXAMPLE: 40H 8 = clamp per above specifications for RG 8/U cable.
41H	Cable clamp	Plastic, Ethyloc plastic cable clips, type 6R, series CPC-742. Number following H is nominal diameter of cable that is clamped. EXAMPLE: 41H 1/8 = Clamp per above specifications, for 1/8" diameter cable. Ethyloc plastic type 6R.
42H	Cable clamp	Cable; aluminum, neoprene coated; specify by nominal diameter; ADEL Series 742 or equivalent.
43H	Tube clamp	Birtcher Series 926. Number following H represents nominal tube base diameter. EXAMPLE: 43H 1-1/8 = Birtcher #926B, for 1-1/8" tube base
44H	Cable clamp	For AN type connector. Number after H designates AN 3057 designation. EXAMPLE: 44H 6 = AN 3057-6 cable clamp.

Item number and letter designation	Type of Component	Description
45H	Mounting clamp	Steel, cadmium plated circular clamp, usually associated with electrolytic capacitor mounting applications. Cornell Dubilier Series 1300-1800, and Mallory Series VR, or equivalent. Number after H designates nominal diameter of clamps. EXAMPLE: 45H 5/8 = clamp for 5/8" diameter. Cornell Dubilier #17920, or equivalent.
46H	Mounting clamp for kilovoltmeter multiplier	Steel clamp, black for multi-cylinder. #20 gauge, I.D. 6-1/4" in height 5-in, mounts multiplier for Ill kilovoltmeter, drawing β-b-lll-A-2, part #1.
47H	Cable clamp	Aluminum Tinnerman series 8A, 6A.
51H	Bracket	Angle, steel, nickel plated. American Radio Hardware Co. Specify by ARHCO #. EXAMPLE: 51H6 = ARHCO #BKA-06.
60H	Neoprene	Gasket material, by thickness.
61H	Garlock 662	Gasket material, by thickness.
62H	Gasket	Neoprene, for H.V. cable clamp, by cable size, per drawing β-a-HVCC-4.
70H	Hole plugs	Non-ventilating, by diameter. Cinch Jones Ser. 141, or equivalent.
71H	Hole plugs	Ventilating, by diameter. Cinch Jones 41V or equiv.
72H	Spacers	Metal spacers, 3/8" O.D., #8 hole; ICA series 5764 through 68, or equivalent. Number after H represents length. EXAMPLE: 62H1 = Spacer 1" long per above, ICA #5768.
73H	Feet	Rubber, 7/8" diameter with #10-32 x 1/2" stud. Miller Products Co. #2102, or equivalent.
74H	Feet	Rubber foot, molded; #MB50, Miller series.
75H	Shock mounts	#10; base 2-1/2" square, 1/4" mounting hole, U.S. Rubber Co. #5150 or equivalent.
76H	Handle	Stanley #482J, number 2; unpainted; letter after H represents color, if any.
77H	Handle	Carrying; 4-1/2"; Precision Metal Products #2102, with mating end ferrule #2105.

Item number and letter designation	Type of Component	Description
77HF	Ferrule	Mating end Ferrule, Precision Metal Products; (Mates with handle #2102, 77H) (formerly 44E.)
78H	Handle	Leather carrying handle.
79H	Handle extension	For circuit breakers, Heinemann Electric Co. #GB-119.
80H	Chain	Bead chain, brass chromium plated, number after H designates manufacturers number.
81H	Coupling	Bead type "A" coupling standard, brass chromium plated. Number after H represents mfg. number.
82H	Outside portlights	Ganz #124, 5" diameter, opening-outside portlights. or equivalent.
1I	Lamp	Neon glow lamp, 117 V (nominal); 1/25 W, miniature bayonet base; NE-51, T-3-1/4 bulb. (Requires external resistor.)
2I	Lamp	Incandescent pilot lamp; #6S6; 115V, 6W; candelabra base; S6 bulb.
3I	Lamp	Incandescent lamp; standard Edison screw base. Numbers after I represent voltage and wattage rating. EXAMPLE: 3I 115 - 100 = 115 volt, 100 watt lamp, per above.
4I	Lamp	Neon glow lamp, 117V (nominal); 1W, double contact bayo candelabra base; NE-32, G-10 bulb (requires external resistor.)
5I	Lamp	Incandescent pilot lamp miniature bayonet base; 6-8 vol 0.15 amperes, brown bead. Bulb #T-3 1/4. G.E. #47 or equivalent.
6I	Screen	Viewing screen for βeta Model 701 portable projection oscilloscopes. Eastman Kodak Co. 11 x 14 1/2" rear Proj. Screen type 1 White. .130.
7I	Lamp	Neon glow lamp, 117V (nominal); 3W, standard Edison screw base; NE-40, S-14 bulb (built-in resistor).
8I	Lamp	Neon glow lamp, 117V (nominal); 1/4 W, candelabra screw base; NE-45, T-4 1/2 bulb (built-in resistor.)
9I	Lamp	Incandescent pilot lamp, 6-8 V, 15 C.P. double contact bayonet base, S-8 bulb.

Item number and letter designation	Type of Component	Description
1J-99J		NOTE: Any receptacle in this grouping mates with the corresponding numbered plug in the P grouping.
1J	Receptacle	1 contact, 97 3102-24-835S; mates with 1P (97 3106-24-835
2J	Receptacle	4 contact, 97 3102-14S-2S; mates with 2P; (97-3106-14S-2P
3J	Receptacle	4 contact, 97 3102-18-4S; mates with 3P; (97 3106-18-4P)
4J	Receptacle	8 contact, 97 3102-22-18P; mates with 4P;(97 3106-22-18S)
5J	Receptacle	8 contact, 97 3102-22-18S; mates with 5P;(97 3106-22-18P)
6J	Receptacle	12 contact, 97 3102-28-8P; mates with 6P;(97 3106-28-8S)
7J	Receptacle	12 contact, 97 3102-28-8S; mates with 7P;(97 3106-28-8P)
8J	Receptacle	9 contact, 97 3102-28-1P; mates with 8P; (97 3106-28-1S)
9J	Receptacle	9 contact, 97 3102-28-1S; mates with 9P; (97 3106-28-1P)
50J	Jack	Banana, Birnbach 394 (giant); mates with 50Pa (Birnbach 396); or 50Pb (Birnbach 397).
51J	Jack	Banana; Birnbach 403 (medium); mates with 51P; (Birnbach #401).
52J	Receptacle	Power; Hubbell Twistlock 7556; 3 pole recessed male receptacle (motor connector); 125V, 15A; 250V, 10A; mates with 52P; (Hubbell #7555).
53J	Receptacle	Power; Hubbell Twistlock 7327; 3 pole recessed male receptacle (motor connector); 240V, 20A; 575V, 10A; mates with 53P; (Hubbell 7313).
54J	Receptacle	Coaxial; Amphenol, AN SO-239J; mates with 54P (AN PL 257)
55J	Receptacle	Power; Hubbell Twistlock 7408, 4 pole recessed male receptacle (motor connector); 250V, ac-dc, 20A; 600 V ac, 10A; mates with 55P. (Hubbell #7413.)
56J	Receptacle	Power; Hubbell Twistlock 7557; 3 pole recessed female receptacle, 125 V, 15A; 250V, 10A; mates with 56P. (Hubbell 7567.)
57J	Receptacle	Power, Hubbell Twistlock 7958; 3 pole, 4 wire, recessed male receptacle (motor connector); 250V dc; 50A; 600V ac, 50A; Mates with 57P (Hubbell 7764).
58J	Receptacle	3 prong socket. Jones #S-303-FP.
59J	Receptacle	10 prong socket. Jones #S-310-AB.
60J	Jack	Mallory #705, 1/4" junior jack; mates with 60P (Mallory plug #75).

Item number and letter designation	Type of Component	Description
61J	Jack	Mallory #JJ083, 3/16"; mates with 61P (Mallory plug #68)
100J	Receptacle	Power; Amphenol 61-M10 (male); 2 pole, standard plug, recessed male receptacle; 110V, 15A; 250V, 10A.
101J	Receptacle	Power; Amphenol 61-F1 (female); 2 pole, standard flush female receptacle; 110V, 15A; 250V, 10A.
102J	Binding post	Single connector, all metal; ICA type 620, or equiv.
103J	Binding post	Single connector, insulated; red ICA type 622 or equiv.
104J	Binding post	Single connector, insulated; black ICA type 623 or equiv.
105J	Binding post	Single connector, all metal; labelled "ground", ICA type 631 or equivalent.
106J	Binding post	1 pole binding post; EBY #37 or equivalent.
107J	Binding post	Single connector, 1 pole binding post, 5 way; 30A, 1,000 volts insulation; red; Superior Electric Co. DF 30RC.
108J	Binding post	Single connector, 1 pole binding post, 5 way, 30A, 1,000 volts insulation; black; Superior Electric Co. DF 30BC.
109J	Binding post	Two poles, National type FWG.
110J	Binding post	2 pole binding post, EBY #21R.
1K	Solenoid	115 volts ac coil; G.E. #CR 9503-208D.
2K	Solenoid	115 volts ac coil; G.E. #CR 9503-209C.
3K	Solenoid	115 volts ac coil; Soreng #EX-324-12100A.
4K	Solenoid	115 volts ac coil; Soreng #EX-358-12100A.
5K	Relay	115 V ac coil; double pole, double throw, 10A, 115 volts ac contacts; Leach type 1127 or equivalent.
6K	Relay	117 V ac coil; double pole, double throw, 10A, 115 volts ac contacts; octal plug-in socket base; Advance 964B-P or equivalent.
7K	Relay	1.5 milliampere dc, 2200 ohm coil; single pole, double throw; contacts: 1 ampere at 26.5 volts dc, 1 ampere resistive or .5A inductive at 115 V ac. Advance type SV1C-2200D.

Item number and letter designation	Type of Component	Description
8K	Relay	1/2 milliampere dc; 29,000 ohm coil; single pole, double throw; 110V ac contacts; Kurman type N220C44Y.
9K	Relay	115 volts ac coil; double pole, single throw, normally open, 15A, 115V ac contacts; Potter Brumfield PR7A.
10K	Relay	24 V ac coil; double pole, single throw, normally open contacts; 15A, 115V ac contacts; Potter-Brumfield PR7A.
11K	Relay	115 V ac coil; double pole, double throw, 15A, 115 volts ac contacts; Potter Brumfield PR11A.
12K	Relay	1/2 milliampere dc; 12,000 ohm coil; single pole, double throw; 110V ac contacts; Kurman type BK35.
13K	Relay	24 V ac coil; double throw, 15A, 115 V ac contacts; Potter-Brumfield PR11A.
14K	Relay	24 V ac coil; double pole, double throw, 3A, 115V ac contacts; Potter-Brumfield KR11A.
15K	Relay	110V dc coil; double pole, double throw, 8A, 115V ac contacts; Potter-Brumfield MR11D.
16K	Relay	110V dc coil; single pole, double throw, 8A, 115V ac contacts; Potter-Brumfield MR5D.
17K	Relay	115 volts ac coil; double pole, single throw, normally open, 10A. 115V ac contacts; time delay 5-20 second adjustable; Leach 1154-T, or equivalent.
18K	Relay	115 V ac coil; double pole, double throw, 2A, 115 V ac contacts; Allied type BJ6A115.
19K	Relay	Balanced relay; Coil (+7.5) - (0) - (-7.5) microamperes dc; contacts single pole, double throw, 5V dc, 200 ma, non-inductive load; Weston #534.
20K	Relay	1.4 ma dc, 8000 ohm coil; contact rating: single pole double throw, 2 A, 24V dc or 115V ac non-inductive load; Sigma type 4F.
21K	Relay	Contactor; 117 V ac coil; double pole; normally open contacts; 115V at 35A or 220 V at 25A; Mercury contacts Ebert Model #EM4.
22K	Relay	117 V ac coil; double pole, double throw, 5A, 115V ac contacts; dust cover; Octal plug-in base; Potter-Brumfield #KRP-11-1832 or equivalent.

Item number and letter designation	Type of Component	Description
23K	Relay	1.2 ma dc; 10,000 ohm coil; SPDT, 5A, 115V ac contacts; Potter-Brumfield LM5-1136.
24K	Relay	115V, 50/60 cycle coil; double pole, double throw, 3A; Potter-Brumfield KR-11A.
25K	Relay	Haydon time delay relay. 0-57 second adjustable; 125 volts ac, 15A contact rating. 115V, 60 cycles coil; Haydon #5901-2.
26K	Solenoid	115 volt ac coil; Soreng #6G12100A.
27K	Relay	Sensitrol relay, 1,000 ohm moving coil; 0-5 micro-amperes, 120V ac at 50 ma contacts with 110V, 60 cycle reset solenoid.
28K	Contactor	Allen-Bradley contactor; specify following when ordering: Bulletin_____, size_____, number of poles_____,_____ volts_____cycle coil; Catalog #_____.
1M	Meter	DC microammeter; 50 microamperes full scale; 4" square bakelite case; Simpson Model 29. Blank scale with βeta name and trademark.
2M	Meter	DC microammeter; 50 microamperes full scale; 3" square bakelite case; Simpson Model 27. Blank scale with βeta name and trademark.
3M	Meter	Weston Model 273 fan shaped meter; 7-1/3" scale length, 1% accuracy. See parts list for sensitivity and scale markings.
4M	Meter	Simpson Model 29 dc meter. 4" square bakelite case, (except 50 μa basic sensitivity). Specify for sensitivity and scale markings. EXAMPLE: 4M 0-1 MICROAMPERES DC = Simpson Model 29 meter, dial to read 0-1 MICROAMPERES DC; 0-200 μa dc sensitivity.
5M	Meter	Simpson Model 27 dc meter. 3" square bakelite case. Specify as per 4M.
6M	Meter	Simpson Model 57 ac meter. 3" square bakelite case. Specify as per 4M.
7M	Meter	Simpson Model 125 dc meter, 2-1/2" round bakelite case. Specify as per 4M.
8M	Meter	Simpson Model 155 ac meter. 2-1/2" round bakelite case. Specify as per 4M.

Item number and letter designation	Type of Component	Description
9M	Meter	Simpson Model 157 ac meter. 2-1/2" rectangular bakelite case; Specify as per 4M.
10	Caster	3" wheel, 1/4 ton swivel bearing; Darnell #3-73TDN; neoprene covered.
20	Caster	6" wheel, 1/2 ton swivel bearing; Darnell #4L06-RDN; neoprene covered.
30	Caster	4" wheel, 1/4 ton swivel bearing; Fairbanks #23-4MP; composition.
40	Caster	6" wheel, 1/2 ton swivel bearing; Fairbanks #23-6MP; composition.
50	Reductor box	400:1 ratio; 31 inch-pounds maximum torque; Boston #LW9.
1P-99P		NOTE: Any plug in this grouping mates with the corresponding numbered receptacle or jack in the J grouping.
1P	Plug	1 contact; 97-3106-24-835P; mates with 1J.
2P	Plug	4 contact; 97-3106-14S-2P; mates with 2J.
3P	Plug	4 contact; 97-3106-18-4P; mates with 3J.
4P	Plug	8 contact; 97-3106-22-18S; mates with 4J.
5P	Plug	8 contact; 97-3106-22-18P; mates with 5J.
6P	Plug	12 contacts; 97-3106-28-8S; mates with 6J.
7P	Plug	12 contacts; 97-3106-28-8P; mates with 7J.
8P	Plug	9 contacts; 97-3106-28-1S; mates with 8J.
9P	Plug	9 contacts; 97-3106-28-1P; mates with 9J.
50Pa	Plug	Banana, Birnbach #396; mates with 50J.
50Pb	Plug	Banana, Birnbach #397; mates with 50J.
51P	Plug	Banana, Birnbach #401; mates with 51J.
52P	Plug	Power; Hubbell Twistlock #7555; 3 pole female connector; 125V, 15A; 250V, 10A; mates with 52J.
53P	Plug	Power; Hubbell Twistlock #7313; 3 pole female connector; 250V, 20A; 575 V, 10A; mates with 53J.
54P	Plug	Amphenol, AN PL-259; mates with 54J.

Item number and letter designation	Type of Component	Description
55P	Plug	Power, Hubbell Twistlock 7413, 3 pole female connector; 250 V ac or dc; 20A; 600 V ac, 10A; mates with 55J. (Hubbell 7408).
56P	Plug	Power, Hubbell Twistlock 7567, 3 pole male connector; 125 V, 15A; 250V, 10A; mates with 56J (Hubbell 5557).
57P	Plug	Power, Hubbell Twistlock 7764, 3 pole, 4 wire, with equipment ground, female connector; 250 V ac, 50A; 600 V, 15A dc; Mates with 57J (Hubbell 7958).
58P	Plug	3 prong plug; Jones #S-303-CCT.
59P	Plug	10 prong plug; Jones #S-310-CCT.
60P	Plug	Mallory #75, 1/4" two way phone plug with tie cord anchor (Phenolic resin shell); mates with 60J (Mallory #705J).
61P	Plug	Mallory #68, 3/16"; mates with 61J (Mallory #JJ083).
62P	Plug	ICA #7577-1/4". (Mates with 62J).
100P	Tube cap	Alden 91 ISL.
101P	Tube cap	National SPP-3 steatite.
102P	Tube cap	National SPP-9 steatite.
103P	Tube cap	3/4" Johnson #124-315.
104P	Clip	Alligator, standard 2" size; ARH 45AT or equivalent.
105P	Clip	Battery; Mueller #27.
106P	Clip	Battery; Mueller #45.
107P	Clip	Battery; Mueller #48B.
1R	Resistor	Carbon or composition resistor; by resistance, % tolerance, watts. EXAMPLE: 1R 47/10/1 = 47 ohms, 10% tolerance, 1 watt. Any make, unless otherwise specified.
2R	Resistor	_____ohms, 5% tolerance, (Unless otherwise indicated by - - - suffix); 1/2 watt, precision, composition; Continental Nobeloy type X-1/2. EXAMPLE: 2R 2K = 5% tolerance; 2R 2K—1 = 1% tolerance; both 2,000 ohms nominal.

Item number and letter designation	Type of Component	Description
3R	Potentiometer	Standard linear potentiometer; wire wound or carbon; by resistance, material and wattage; nominal shaft. EXAMPLE: 3R 10W4 = 10 ohms, wire wound, 4 watts, any make.
4R	Resistor	High voltage; Resistance Products Co., by resistance in megohms, RPC type; and tolerance. EXAMPLE: 4R 1 BFQ 15 = 1 megohm, type BFQ, 15% tolerance.

RESISTANCE PRODUCTS CO. HIGH VOLTAGE RESISTORS.

TYPE	WATTS (in air)	VOLTS
BBF	1	3,500
BBM	2	7,500
BBR	3	15,000
BBV	5	30,000
BFQ	4	15,000
BFT	6	25,000
BFW	10	40,000
DPW	20	35,000
DPY	30	65,000
DVY	50	90,000
DZW	30	40,000
DZZ	90	125,000

5R	Resistor	Matched pairs; high voltage; Resistance Products Co.; by total matched resistance; individual RPC number, tolerance. EXAMPLE: 5R 1000 BFW 2 = Matched pair, 1000 megohms total, each resistor BFW, 2% tolerance of total resistance.
6R	Resistor	Power resistor_____ohms, (10% tolerance, unless otherwise indicated) _____watts, all wire wound. Any manufacturer, unless otherwise specified. EXAMPLE: 6R 1k5 = 1k ohms, 5 watts (if tolerance is other than 10% note as below. 6R 1k 5 - 1 (1%).
7R	Resistor	Precision, wire wound by resistance, precision, wattage. Any make, unless otherwise specified. EXAMPLE: 7R 2k/1/ 1/2 = Resistor, precision, wire wound, 2k ohms, 1% tolerance, 1/2 watt.
8R	Resistor	Precision, composition; by resistance, precision, wattage.

Item number and letter designation	Type of Component	Description
9R	Resistor	High frequency, Resistance Products Co. by resistance in megohms, RPC type; and tolerance.
10R	Potentiometer	Wire wound or composition potentiometer. For calibration purposes; linear taper, with screwdriver shaft, locking control, and MINIMUM RESISTANCE of approximately 10% maximum value. Clarostat Mfg. Co. series 43, 58, etc. By resistance, material, wattage. EXAMPLE: 10R 10k W 2 = Potentiometer, 10k, wire wound, 2 watts. 10R 10k C 1 = Potentiometer, 10k, composition 1 watt.
11R	Potentiometer	General Radio type 371A potentiometer. Number after 11R designates ohmage. EXAMPLE: 11R 10k = General Radio type 371A pot, 10,000 ohms.
1S	Switch	Door interlock switch; single pole, double throw, 10 A 115 V contacts ac; Microswitch model 2AC1. Manually disabling and automatic reset type.
2S	Switch	Spring leaf switch; single pole, double throw, 15A, 115 V ac contacts; Microswitch type BZ-2RL-A2.
3S	Switch	Toggle switch; double pole, single throw, 3A, 125 V ac; screw terminals; Arrow-Hart & Hegeman #8965 or equiv.
4S	Switch	Toggle switch; double pole, single throw, 12A, 125V ac contact; Arrow-Hart & Hegeman #80600 or equivalent.
5S	Switch	Momentary pushbutton switch; 2 circuits; 1 - normally open, 1 - normally closed; BREAK BEFORE MAKE; 3 A at 125 V ac contacts with screw terminals; Arrow-Hart & Hegeman #3392A or equivalent.
6Sb,r	Switch	Momentary pushbutton switch; 2 circuits; 1 - normally open, 1- normally closed; BREAK BEFORE MAKE, 15A at 125 V ac contacts; G.E. #CR 2943-U-103C; or equivalent. b = black. r = red.
7S	Switch	Rotary selector switch; 2 poles, 2 to 5 positions; shorting; steatite insulation; Centralab #2504.
8S	Switch	Rotary selector switch; 4 poles, 2 to 5 positions; shorting; steatite insulation; Centralab #2514.
9S	Switch	Rotary selector switch; 4 poles, 2 to 5 positions; non-shorting; steatite insulation; Centralab #2515.

Item number and letter designation	Type of Component	Description
10S	Switch	Rotary snap switch; double pole; double throw, 3A, 125V ac; with screw terminals; A-H & H #1575 or equivalent.
11S	Switch	Rotary selector switch;___poles,___positions; (shorting, non-shorting); (ceramic, steatite) insulation. Manufacturing and number_____(see parts list for details).
12S	Switch	Knife switch; specify by number of blades, number of throws voltage rating, current rating and manufacturer's number.
13S	Switch	Door interlock switch, SPDT, 15A, 150V ac contacts, manually disabling & automatic test type. Microswitch #1AC2.
14S	Switch	Microswitch (actuator with roller) #BZ-2RL-2.
101S	Circuit breaker	Heineman Cat.#0411TS, 60 cycles, 1Ø, 120V, curve 2. Number after S designates current rating.
102S	Circuit breaker	Heineman Cat.#0411TS, 60 cycles, 1Ø, 250V, curve 2. Number after S designates current rating.
103S	Circuit breaker	Heineman Cat.#0411CS, 60 cycles, 1Ø, 120V, curve 2. Number after S designates current rating. (This has terminal for shunting trip control).
	NOTE:	Any transformer with βeta number, ending in "0" represents the corresponding unit potted. Thus 100T0= transformer 100T β#20115, potted.
100T	Transformer	117V primary; Sec: 2 windings; each 1.3V at 0.3A; or 1.6V at 1.25A, or 2.6V at 5A (by means of PRIMARY taps.) Each winding insulated for 30 kv dc in air, 45 kv dc potted. β#20115.
101T DEAD	Transformer	115/2.6,2.6V at 5A; each secondary winding insulated for 65 kv dc; βeta #24211, for operation under oil.
102T DEAD	Transformer	117/5V, 6.5A; 30 kv dc ins., β#24511, air insulated.
103T DEAD	Transformer	Pri: 110/220V; Sec: 6.0V, 5A, 6.0V, 5A; one winding insulated for 150 kv dc; other winding insulated for 600V; βeta #201017; for operation under oil.
104T	Transformer	Pri: 110/220V; Sec: 6.0V, 4.0V; 150 kv dc ins., βeta #2131
105T DEAD	Transformer	Pri: 110/220V; Sec: 6.0V, 4.0A; 300 kv dc ins., βeta #2131
106T	Transformer	Pri: 110V, 50/60 cycles; tapped to give: Sec: 2 windings 1.6V, 1.25A; or 2.5V, 5A; or 5.0V, 10A each winding. 65 kv dc ins., operation under oil, 50 kv dc; βeta #24212.
107T	Transformer	Pri: 105/115/125/210/230/250V, 60 cycles; Sec: 6.0V, 5A; 300 kv dc ins., operation under oil βeta #21319.
108T	Transformer	Pri: 110V, 50/60 cycles; Sec: 13V, 7A; 150 kv dc insulation operation under oil; βeta #21319.

Item number and letter designation	Type of Component	Description
109T DEAD	Transformer	Pri: 115V, 50/60 cycles; Sec: 2 windings; each 1.6V, 1.5 35 kv dc insulation; operation under oil; βeta #20112.
110T	Transformer	Filament transformer; 110/220 volts in/6 volts or 6.5 volts at 5 amperes nominal; dual secondary by means of primary taps, 1 secondary 120 kv dc with voltage to ground; 1 secondary 400 volts dc working voltage to ground.
111T	Transformer	Pri: Dual winding 0-105/115/125 volts; Sec: 20V, 25A; Insulation: 500V dc working voltage; transformer to operate under oil; grounded copper foil shield between primary and secondary windings, insulated from this winding.
112T	Transformer	Pri: 0-105/115/125 volts; Secondary: 20V, 25A; Insulation: 300 kv dc working voltage; transformer to operate under oil; grounded copper foil shield between primary and secondary windings; insulated from this winding; βeta #230011.
200T	Transformer	Pri: 105/115 V, 50/60 cycles; Sec: 2.5 V CT at 10A, 1500 volts insulation; UTC #S-53 or equivalent.
201T	Transformer	Pri: 105/115 V, 50/60 cycles; Sec: 2.5V CT at 10A, 10,000 volts insulation; UTC #S-57 or equivalent.
202T	Transformer	Pri: 105/115 V, 50/60 cycles; Sec: 2.5V CT at 20A, 10,000 volts insulation; UTC #S-58 or equivalent.
203T	Transformer	Pri: 105/115 V, 50/60 cycles; Sec: 5/5.25 V CT at 22A, 3,000 volts insulation; UTC #S-60 or equivalent.
204T	Transformer	Pri: 105/115 V, 50/60 cycles; Sec: 10V CT at 10A,3000 volts insulation; UTC #S-62 or equivalent.
205T	Transformer	Pri: 110/220 V; Sec: 5V at 10A; 60 cycles; 15 kv insulation; General Electric #7470615 or equivalent.
206T	Transformer	Pri: 105/115 V, 50/60 cycles; 3 sec: 2.5V CT at 5A; 5 V CT at 6A; 300V insulation; UTC #S-59 or equivalent.
207T	Transformer	Pri: 105/115 V ac, 60 cycle input; Sec: 14 V CT, 11V CT at 10A, 5000 V insulation; UTC #S-63 or equivalent.
208T	Transformer	Pri: 105/115 V, 60 cycles; 3 Sec: 2.5 V CT at 5A; 5V CT at 6A; 3000 V insulation; UTC #S-64 or equivalent.
209T	Transformer	Pri: 105/115 V input, 50/60 cycles; 3 Sec: 2.5 V at 5A; 5 V CT at 4A; 6.3V CT at 3A; 3 kv insulation; UTC #S-65 or equivalent.
210T	Transformer	Pri: 105/115V, 50/60 cycles; Sec: 16.3 V CT at 3A; 7.5 V CT at 5A; UTC #S-68 or equivalent.
211T	Transformer	Pri: 105/115 V, 50/60 cycles; Sec: 6.3 V CT at 5A; 6.3V CT at 5A; 2 kv insulation; UTC #S-70 or equivalent.

Item number and letter designation	Type of Component	Description
212T	Transformer	Pri: 110V, 60 cycles; Sec: 5V at 10A; Freed Transformer #TF-7, CH80 case.
213T	Transformer	Pri: 117V, 60 cycles; Sec: 6.3 V ct, 1.2A; 2500 V rms insulation; Stancor #P-6134.
300T DEAD	Transformer	Pri: 115V; 3 Sec: 7.5 kv at 3 ma, low end grounded; 1.3 V, 2A, low voltage insulation; 1.3 V, 2A, high voltage insulation. βeta #00111.
301T DEAD	Transformer	Pri: 117V; 3Sec: 7.1 kv, 4 ma; start insulated for 11 kv dc, 1.3V, 0.3A, low voltage insulation; 1.3 V, 0.3A, tied to high voltage secondary end; βeta #00311; air insulated.
302T	Transformer	117/11,500 V at 4 ma; start of secondary insulated for 16 kv dc; βeta #20113; air insulated.
303T	Transformer	117/22,000 volts, 8 milliamperes; start of secondary insulated for 20 kv dc air; 30 kv dc potted; 60 kv dc, oil; βeta #21714.
304T	Transformer	Pri: 110/220 V; Sec: 44,000 volts, 8 milliamperes; start of secondary insulated for 75 kv dc; βeta #201042; for operation under oil.
305T	Transformer	Pri: 115 V, 400 cycles; Sec: 45 kv, 12-1/2 milliamperes rms; βeta #21342; start of secondary grounded.
306T	Transformer	Pri: 105/115/125 V, 60 cycles; Sec: 4 kv at 600 milliamperes rms; start of secondary insulated for 5 kv dc; βeta #204642.
307T	Transformer	Pri: 110/220V, 60 cycles; Sec: 12,500 V rms at 100 milliamperes rms; air or oil operation; βeta # 203041 (Old # β#24541).
308T	Transformer	Low voltage, high current transformer used in new LV series power supply, (formerly 227 series) listed by ac voltage and dc current. EXAMPLE: 308T 36-20 = 36 volt rms, 20 amperes dc.
309T DEAD	Transformer	Pri: 115 V, 60 cycles; Sec: 11,500 V at 6 milliamperes rms, 16 kv dc insulation at start of secondary; oil operation; βeta #20141.
310T	Transformer	Pri: 117 V, 60 cycles; Sec: 22,000 V, 20 milliamperes; 22.5 kv dc insulation, potted; βeta #210241.
311T	Transformer	Pri: 110V, 60 cycles; Sec: 90-0-90 kv rms at 25 milliamperes; nominal insulation; βeta #200742.

Item number and letter designation	Type of Component	Description
312T DEAD	Transformer	Pri: Terminal board, full secondary to primary shield; 0-115/125/140 V in, 5 kv rms out, at 3 ma dc from half-wave rectifier with capacitor filter, and also 5 kv rms at 3 ma rms; βeta #80941 (air insulated).
313T	Transformer	Pri: 117V, 60 cycles; Sec: 50,000 V rms, 100 milli-amperes rms; nominal insulation; operation under oil; βeta #805041.
314T	Transformer	Pri: 117V, 60 cycles; Sec: 110 kv rms, 100 milliamperes rms; nominal insulation; operation under oil; βeta #810041.
315T	Transformer	Pri: 110/220V, 60 cycles; Sec: 55,000 volts rms at 25 milliamperes rms; start of secondary insulated for 80 kv dc under oil; βeta #215041.
316T	Transformer	Pri: 117V, 60 cycles; Sec: 45 kv rms. Both ends of secondary insulated for 65 kv dc; under oil operation; for use in full wave bridge rectifier to deliver 60 kv, 40 milliamperes dc; βeta #206041.
317T	Transformer	Pri: 115V, 50/60 cycles; Sec: 7.5 kv rms, 3 ma; low lead insulated for 220 volts; βeta #800541.
318T DEAD	Transformer	Two primary windings; two secondary windings; sym-metrical construction: Pri: 120V, with taps; Sec: 2.05 kv rms, 10 ma; 4.15 kv rms, 5 ma; 8.3 kv rms, 5 ma; 12.5 kv rms, 2.5 ma; using appropriate primary taps and secondary, low end insulated for 16 kv dc; air insulated; βeta #100041.
319T	Transformer	Pri: 117V, 60 cycles; Sec: 13.5 kv rms, 8 ma; start of secondary insulated for 16 kv dc air insulation; βeta #319T.
320T	Transformer	Pri: 117V, 60 cycles; Sec: 11,500 V, 14 ma rms, use in half-wave circuits; input circuit primary to take 140 V momentarily. βeta #210341. (This transformer to be potted only).
400T	Transformer	Pri: 115V, 50/60 cycles; Sec: 1000-750-0-750-1000 V rms at 300 ma dc; UTC #S-46 or equivalent.
401T	Transformer	Pri: 115V, 50/60 cycles; Sec: 1500-1250-1000-0-1000-1250-1500 V rms at 300 milliamperes dc; UTC #S-47 or equivale
402T	Transformer	Pri: 115 V, 50/60 cycles; Sec: 1500-1250-1000-0-1000-125 1500 V rms at 500 ma dc; UTC #S-48 or equivalent.
403T	Transformer	Pri: 115V, 50/60 cycles; Sec: 2100-1800-1500-0-1500-1800-2100 V rms at 300 ma dc; UTC #S-49 or equivalent.

Item number and letter designation	Type of Component	Description
404T	Transformer	Pri: 115V, 50/60 cycles; Sec: 3000-2500-0-2500-3000 V rms at 300 ma dc; UTC #S-50 or equivalent.
405T	Transformer	Pri: 117V, 60 cycles; Sec: 525-425-0-425-525 V rms at 20 milliamperes dc; 5V at 3A; 6.3 V ct at 3A; 6.3 V ct at 3A; UTC #S-40 or equivalent.
406T	Transformer	Pri: 115 V, 60 cycles; Sec: 900-750-0-750-900 V at 200 ma dc; UTC #S-45 or equivalent.
407T	Transformer	Pri: 117 V, 60 cycles; Sec: 2500 V rms at 15 ma rms; Dongon Electric Co.
408T	Transformer	Pri: 117 V,60 cycles; Sec: 7.5 kv at 55 ma dc full wave doubler; Thordarson.
409T	Transformer	Pri: 105/115/210/220/240V; Sec: 7000-6000-4800 V ct at 300 ma dc; UTC #CG-307 or equivalent.
410T	Transformer	Pri: 105/115/220/230V; Sec: 7000-6000-4800 V ct at 1A dc; UTC #CG-309 or equivalent.
411T	Transformer	Pri: 105/115/220/230 V; Sec: 4800-2800-0-2800-4800 V ct at 300 ma dc; UTC #CG-305 or equivalent.
412T	Transformer	Pri: 117 V, 60 cycles; Sec: 2400 V at 5 ma dc; 2.5 V at 2A; 7.5 kv insulation; use in half wave doubler; Stancor #P-8151.
500T	Covat*	Single phase, hand operated Superior Electric Co. powerstat. Specify by Model, input voltage and output current rating. EXAMPLE: 500T20-115/3.5 = Superior Electric Co. Model 20 powerstat; 115/0-135 volts, 3.5A.
501T	Covat	Single phase, motor driven, Superior Electric Co. powerstat. Specify by Model, input voltage and output current rating. EXAMPLE: 501T 200B-115/1.5 = General Radio Co. Model 200-B variac. 115/0-135 V, 1.5A.
502T	Covat	Single phase, motor driven, Superior Electric Co. powerstat. Specify by Model, input voltage and output current rating, and rise time formaximum output voltage, from zero start. EXAMPLE: 502T MZ 1156-3P-115/135-6 = Superior Electric Co. Model MZ1156-3P powerstat; 115/0-135 V, 135 amperes, 6 seconds rise time.

* COVAT - COntinuously Variable Auto Transformer;i.e., powerstat, variac, etc.

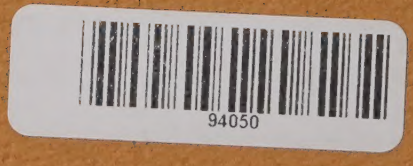
Item number and letter designation	Type of Component	Description
503T	Covat	Three phase, hand operated Superior Electric Co. powerstat. Specify by Model, input voltage and output current rating.
504T	Covat	Three phase, motor driven. Specify by Model, input voltage and output current rating, and rise time for maximum output voltage, from zero start.
600T	Autotransformer	All 230 V in, 115 V out. Specified by volt-ampere rating. United Transformer Co. Series R41-R46 or equivalent.
601T	Isolation transformer	All 110/220 volts in, 110/120 volts out; specified by voltampere ratings. United Transformer Co. Series R72-77 inclusive. EXAMPLE: 71T40 = isolation transformer, 115/115 volts, 40 VA; UTC #R72 or equivalent.
602T	Isolation Step-down transformer	230 volts in, 115 volts out. Specify by voltampere rating. Stancor Series 6383-90 or equivalent. EXAMPLE: 602T 100 = Isolation stepdown transformer, 250/230/210/115 V, 100 VA; Stancor #6383 or equivalent.
650T	Transformer	Pri: 115V; Sec: 3 windings; 5.9 V, 1A; 16.3 V, 0.3A; 200 V, 50 ma; βeta #30112 (air insulated).
651T	Transformer	Pri: 115 volts, 50/60 cycles; Sec: 2 windings, 1.3 V, 0.3 A,low voltage insulation; 6.9 kv rms, 3 ma with 1.3 volt, 0.3A tap at high end; start insulated for 10 kv dc; air insulated; βeta #00341.
1V	Tube rectifier	Filament: _____volts,_____amperes; average plate current:_____milliamperes maximum; Inverse peak _____; Mfgr. and #_____.
2V	Tube rectifier	Filament:1.3 V, 0.3A; average current: 2 ma maximum. Inverse peak: 30 kv. Type 1B3.
3V	Tube rectifier	Filament: 1.6 V, 1.25A; average current: 2 ma maximum. Inverse peak: 60 kv; RCA type 5825.
4V	Tube rectifier	Filament: 2.5 V, 5A; average current: 20 ma maximum. Inverse peak: 40 kv; type 8013 or 8013A.
5V	Tube rectifier	Filament: 5V, 6A; average current; 100 ma maximum. Inverse peak: 40 kv; type 8020.

Item number and letter designation	Type of Component	Description
6V	Tube rectifier	Filament: 6.0V, 4.5A; average current: 2 5 ma maximum. Inverse peak: 140 kv; Dunlee type VR3B or equivalent.
7V	Tube rectifier	Filament: 5.0V,10A; average current: 250 ma. Inverse peak: 60 kv; Eimac type 250R.
8V	Tube triode	Multi-tron Laboratory #MTL 2C175.
9V	Vacuum tube rectifier	Filament: 6.0V, 6.8A; average current: 200 ma maximum. Inverse peak: 140 kv; Machlett type ML-41E.
10V	Vacuum tube rectifier	Filament: 6.0V, 4.1 A; average current 30 ma. Inverse peak: 160 kv; Eureka #EV3-75T.
11V	Vacuum tube rectifier	Filament: 6.0V, 6.8A; average current: 200 ma maximum. Inverse peak: 150 kv; Machlett type ML 48-E
12V	Vacuum tube rectifier	Filament: 6.5V, 6.0A; average current: 400 ma maximum. Inverse peak: 125 kv; Amperex type AVT-13E.
1W	Line cord	AC line cord; 6 feet long. 2 conductors, #18 gauge wire, stranded, consisting of 16 strands of #30 wire; neoprene insulation. Cornish Wire Co. #1462 or equivalent.
2W	Output cable	RG 8/U coaxial cable.
3W	Output cable	RG 17/U coaxial cable.
4W	Output cable	RG 19/U coaxial cable.
5W	Output cable	RG 59/U coaxial cable.
6W	Interconnecting cable	8 conductor, #16 stranded cable; rubber insulation on wires, neoprene outer jacket. See parts list for length.
7W	Interconnecting cable	12 conductor, #16 stranded cable; rubber insulation on wires, neoprene outer jacket. See parts list for length.
8W	Interconnecting cable	___ conductor,___stranded cable; rubber insulation on wires, neoprene outer jacket. See parts list for length. (XF1 is holder for fuse F1. NOTE: (XI3 is holder for lamp I3 (XV1 is socket for tube V1, etc.
1XF	Fuse holder	Buss type HKP fuse assembly, or equiv. (15A or less rating
2XF	Fuse holder	Buss type HPC or equivalent, fuse assembly. (30A or less rating.)

Item number and letter designation	Type of Component	Description
3XF	Fuse Holder	Littelfuse #121002. Midget fuse clip.
4XF	Cartridge fuse cutout	Porcelain base cartridge fuse cutouts. Specify ampere rating, voltage, number of poles, main line or number of branches, if any, and Leviton catalog number. EXAMPLE: 4XF 60/250/ML/3/3907 = cartridge fuse cutout 60 amperes, 250 volts, main line, triple pole, Leviton #3907.
1XI	Pilot light holder	Dialco type 811308-437 assembly. Clear faceted lens, with built-in resistor (for I1 neon glow lamp.)
2XI	Pilot light holder	Dialco type 810B-43 assembly, or equivalent; no resistor in base (see parts list of jewel color).
3XI DEAD	Pilot light holder	Dialco type 4931-L-2 or equivalent.
4XI	Pilot light holder	Dialco type 51901-43 (see parts list for jewel color). (for 2I incandescent lamp).
5XI DEAD	Pilot light holder	Dialco type 95-4635-L46 or equivalent (for 4I neon glow lamp.)
1XV DEAD	Tube socket	Plastic cleat lampholder; medium base; 250V, 660W; Monowatt #GE 1640-1 or equivalent.
2XV	Tube socket	Octal tube socket, bakelite insulation; Amphenol #77-MIP-8 or equivalent.
3XV	Tube socket	4 prong breadboard type; EBY 12-4.
4XV	Tube socket	4 pin, medium bayonet, steatite; Johnson Co. #123-210 or equivalent.
5XV	Tube socket	4 pin, standard jumbo, steatite; Johnson Co. #123-211 or equivalent.
6XV	Tube socket	Octal breadboard; EBY 12-8.
7XV	Tube socket	4 pin tube socket, bakelite insulation; Amphenol #77-MIP-4 or equivalent.
8XV	Tube socket	Ceramic cleat receptacle; medium base; 250 V, 660 W; Circle #226 or equivalent.
9XV	Tube socket	7 pin miniature, Amphenol #147-905.
10XV	Tube socket	9 pin miniature, Amphenol #59-406.

Item number and letter designation	Type of Component	Description
11XV	Tube socket	7 pin, giant wafer, steatite, Johnson Co. #122-237 or equivalent.
12XV	Tube socket	4 pin, super jumbo, steatite, Johnson Co. #123-206 or equivalent.
13XV	Tube socket	A two unit socket for "250 watt" tubes. Johnson #124-215, or equivalent.
1CR	Selenium rectifier	Half-wave section; 115 V ac in; 130V dc out; 100 ma; Federal Telephone and Radio #1004.
2CR	Selenium rectifier	Full-wave bridge; 115V ac in, 90V dc out; 750 ma; Opad-Green B6-750 or equivalent.
3CR	Selenium rectifier	Full wave bridge instrument rectifier; 5 ma dc maximum; Conant type 160-C.
4CR	Selenium rectifier	Germanium rectifier; type 1N34.
5CR DEAD	Selenium rectifier	Half-wave section, 456 V peak inverse, 500 ma dc maximum. Radio Receptor #6S2.
6CR	Selenium rectifier	Directron, 130V in/1 ampere dc out at approximately 100 volts dc; full-wave bridge.
7CR	Selenium rectifier	Half-wave section, Union Switch and Signal; by maximum dc current in milliamperes, type and maximum peak inverse volts. EXAMPLE: 7CR 2.5 - PF 1800 - 2.5 ma, type PF, 1800 volts maximum peak inverse. U.S. & S. S3Y50PF. TYPE: PF - Phenolic tube, ferrule end caps. GF - Glass tube, ferrule end caps. PL - Phenolic tube, axial end leads.
1TB	Terminal board	Jones barrier strips, Cinch Jones series 141; specify by number of contacts. (Tie points for interconnecting wires.) EXAMPLE: 1TB4 = Cinch Jones #4-141 terminal board.
2TB	Terminal board	Jones barrier strips, Cinch Jones series 142, specify by number of contacts. (Tie points for interconnecting wires.)
3TB	Terminal board	5 position; Precision Metal Products #2063. (mounting boards for small sizes circuit components.)
4TB	Terminal board	5 position; Precision Metal Products #2064 (mounting boards for small sizes circuit components.)

Item number and letter designation	Type of Component	Description
1VR	Electronic line voltage regulator	Input, 95-130 volts; output, 110-120 volts; regulation accuracy 0.1%. Specify by voltampere rating, which is also Sorensen and Co. Model #_____. EXAMPLE: 1VR 150 = regulator per above, 150 VA rating, Sorensen and Co. Model 150.
2VR	Electronic line voltage regulator	Input, 195-250 volts; output, 210-240 volts; regulation accuracy 0.1%. Specify by voltampere rating, which is also Sorenson Model #_____.
3VR	Magnetic line voltage regulator	Input, 95-125 volts; output, 115 volts; regulation accuracy 1%. Sola Electric Co. Series 30,000 or equivalent.. Specify by voltampere rating. EXAMPLE: 3VR500 = regulator per above, 500 VA rating; Sola Model 30808, or equivalent.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